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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,579	07/02/2002	Mike Rhodes	1037BP-1	7038

7590 03/29/2004
Robert D Traver
Suite 1200
1560 Broadway
Denver, CO 80202-5141

EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,579

Applicant(s)

RHODES ET AL.

Examiner

Robert A Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-21, 7-02
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Emmett, Jr et al(5007620).

Emmett, Jr et al teaches a process for recovering metals from materials containing them by bio-oxidation comprising treating, in a non-mechanically agitated reactor(13), a slurry comprising a metal containing material with bacteria capable of promoting extraction of metals from the metal containing material, and introducing an oxygen containing gas to the slurry within the reactor by aeration means(see figure 8). Emmett, Jr et al further teaches wherein the oxygen containing gas is introduced to the slurry in bubbles of controlled size. Emmett, Jr et al further teaches wherein the aeration means includes at least one disc shaped diffuser. Emmett, Jr et al further teaches wherein the reactor is rakeless. Emmett, Jr et al further teaches wherein gas introduced to the reactor further includes carbon dioxide(column 2 line 40). Emmett, Jr et al further teaches wherein the bacterial culture includes Thiobaccillus thiooxidans and Thiobaccillus ferrooxidans. Emmett, Jr et al further teaches wherein the metal containing material contains at least one metal selected from the group consisting of non-ferrous base metals, precious metals, and rare earth metals.

Claims 9-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Emmett, Jr et al(5007620).

Emmett, Jr et al teaches a reactor system for bio-oxidation treatment of metal containing materials comprising at least one rakeless reactor having a reactor volume provided with aeration means(see figure 8) for introducing an oxygen containing gas to the reactor volume for maintaining the metal containing material in suspension and bacterial viability. Emmett, Jr et al further teaches wherein the reactor is a tank. Emmett, Jr et al further teaches wherein the reactor includes a reservoir lined with a liquid impermeable barrier. Emmett, Jr et al further teaches wherein the aeration means includes at least one diffuser. Emmett, Jr et al further teaches wherein each diffuser is placed adjacent the base of the reactor. Emmett, Jr et al further teaches wherein the diffuser is a disc shaped diffuser. Emmett, Jr et al further teaches wherein the aeration means is located in a pipeline communicating with the reactor.

Claims 9-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Zeppenfeld(5093047).

Zeppenfeld teaches a reactor system for bio-oxidation treatment of metal containing materials comprising at least one rakeless reactor(column 4 lines 45-54) having a reactor volume provided with aeration means(2) for introducing an oxygen containing gas to the reactor volume for maintaining the metal containing material in suspension and bacterial viability. Zeppenfeld further teaches wherein the reactor is a tank. Zeppenfeld further teaches wherein the reactor includes a reservoir lined with a liquid impermeable barrier. Zeppenfeld further teaches wherein the aeration means

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includes at least one diffuser. Zeppenfeld further teaches wherein each diffuser is placed adjacent the base of the reactor. Zeppenfeld further teaches wherein the diffuser is a disc shaped diffuser. Zeppenfeld further teaches wherein the aeration means is located in a pipeline communicating with the reactor.

Allowable Subject Matter

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

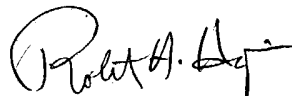
Claim 12 recites "wherein said at least one reactor has a feed end and a discharge end with a base of the reactor having a descending slope towards the discharge end". Aminoff(1019003) discloses an absorption apparatus for gas liquid contact having a sloped contacting chamber, however the contacting chamber is not a reactor and does not include aeration means for introducing oxygen gas. Also, it would not have been obvious to modify Emmett, Jr et al or Zeppenfeld because both of the reactors are horizontal reactors.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday 9:00am-4:00pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert A Hopkins
Primary Examiner
Art Unit 1724

Rah
March 22, 2004